

## CLAIMS.

1. Heat transfer fluid, for use over a broad range of temperatures, consisting essentially of a combination selected  
5 from:

(a) a mixture of at least two structurally non-identical aromatic components selected from the group consisting of alkyl-benzene and polyalkyl-benzene wherein the alkyl moiety is  
10 represented by branched or straight carbon chains having from 1 to 6 carbon atoms provided that the total number of carbon atoms in the alkyl moiety(ies) is in the range of from 1 to 10; and

15 (b) a mixture of an aromatic component selected from the group consisting of alkyl-benzene and polyalkyl-benzene wherein the alkyl moiety is represented by branched or straight carbon chains having from 1 to 6 carbon atoms provided that the total number of carbon atoms in the alkyl moiety(ies) is in the range  
20 of from 1 to 10 and an aliphatic hydrocarbon having a linear or branched chain with from 5 to 15 carbon atoms, or mixtures thereof;

at a level such that the composition has a cloud point below -  
25 100 °C, preferably in the range of from -110 °C to -175 °C, a vapor pressure at +175 °C, below 827 kPa, and a viscosity, measured at the cloud point temperature of the fluid + 10 °C, below 400 cP.

2. The heat transfer fluid in accordance with Claim 1 wherein the alkyl moiety in the aromatic component is selected from the group of methyl, ethyl, dimethyl, ethylmethyl, trimethyl, n-propyl, n-butyl, methyl(n-propyl), di-ethyl, 5 tetramethyl, n-pentyl, ethyl(n-propyl), methyl(n-butyl), n-hexyl, di(n-propyl), tri-ethyl or mixtures thereof.

3. The heat transfer fluid in accordance with Claim 1 10 having a vapor pressure at +175 °C below 621 kPa.

4. The heat transfer fluid in accordance with Claim 1 having a viscosity below 300 cP. 15

5. The heat transfer fluid in accordance with Claim 1 wherein the aliphatic hydrocarbon contains from 5 to 10 carbon atoms.

20 6. The heat transfer fluid in accordance with Claim 1 wherein the aliphatic hydrocarbon is represented by: pentane-2,2,4-trimethyl; pentane-2,3,4-trimethyl; pentane-2-methyl; pentane-3-methyl; hexane-2-methyl; hexane-3-methyl; n-hexane; 25 hexane-2,2-dimethyl; hexane-3,3,-dimethyl; n-heptane; heptane-4-methyl; n-octane; and octane-2-methyl and mixtures thereof.

7. The heat transfer fluid in accordance with Claim 1(a) 30 wherein the ponderal ratio of the structurally non-identical aromatic components is in the range of from 95 : 5 to 5 : 95.

8. The heat transfer fluid in accordance with Claim 1(b) wherein the ponderal ratio of aromatic component : hydrocarbon component is in the range of from 10 : 90 to 90 : 10.

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9. The heat transfer fluid in accordance with Claim 7 wherein the aromatic components are represented by binary combinations of: toluene/ethylbenzene; toluene/n-propylbenzene; toluene/n-butylbenzene; ethylbenzene/n-propylbenzene and n-propylbenzene/n-butylbenzene.

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10. The heat transfer fluid in accordance with Claim 7 wherein the ponderal ratio of structurally non-identical aromatic components is in the range of from 80 : 20 to 20 : 80.

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11. The heat transfer fluid in accordance with Claim 8 wherein the ponderal ratio of aromatic component : hydrocarbon component is in the range of from 15 : 85 to 80 : 20.

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12. The heat transfer fluid in accordance with Claim 8 wherein the ponderal ratio of aromatic component : hydrocarbon component is in the range of from 20 : 80 to 70 : 30.

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13. The heat transfer fluid in accordance with Claim 7 wherein the aromatic components are represented by ternary combinations of: n-propylbenzene/toluene/ethylbenzene; ethylbenzene/n-propylbenzene/n-butylbenzene; n-propylbenzene/n-butylbenzene/toluene; and ethylbenzene/toluene/n-butylbenzene.